Volume 126 January 1983

CONTENTS

On a fourth-order envelope equation for deep-water waves. PETER A. E. M. JANSSEN *page* 1

Homeotropic nematics heated from above under magnetic fields: convective thresholds and geometry. J. SALAN and E. GUYON 13

On water waves produced by ground motions. PIERRE C. SABATIER 27

Rarefaction shock wave near the critical liquid–vapour point. A. A. BORISOV, AL. A. BORISOV, S. S. KUTATELADZE and V. E. NAKORYAKOV 59

Three-dimensional simulations of convection in layers with tilted rotation vectors. DAVID H. HATHAWAY and RICHARD C. J. SOMERVILLE 75

Multicellular natural convection in a vertical slot. YEE LEE and SEPPO A. KORPELA 91

Some aspects of the fluid dynamics of laser welding. JOHN DOWDEN, MICHAEL DAVIS and PHIROZE KAPADIA 123

Vortex shedding from a rectangular prism and a circular cylinder placed vertically in a turbulent boundary layer. HIROSHI SAKAMOTO and MIKIO ARIE 147

On perturbation methods in nonlinear stability theory. THORWALD HERBERT 167

Instantaneous pressure fields at a corner associated with vortex impingement. Y.-P. TANG and D. ROCKWELL 187

On the method of moments for solute dispersion. N. G. BARTON 205

Resonance in open harbours. CLAUDE F. NOISEUX 219

Stokes flow past bubbles and drops partially coated with thin films. Part 1. Stagnant cap of surfactant film – exact solution. S. S. SADHAL and ROBERT E. JOHNSON 237

On characteristics of the water-particle velocity in a plunging breaker. TAKEO NAKAGAWA 251

Flow in a differentially rotated cylindrical drop at low Reynolds number. GEORGE M. HARRIOTT and ROBERT A. BROWN 269

An experimental and theoretical investigation of the onset of convection in rotating spherical shells. C. R. CARRIGAN and F. H. BUSSE 287

Free convection from a disk rotating in a vertical plane. S. S. CHAWLA and A. R. VERMA 307

Oscillating-grid turbulence including effects of rotation. STUART C. DICKINSON and ROBERT R. LONG 315

A sufficient condition for the instability of columnar vortices. S. Leibovich and K. Stewartson 335

On the nonlinear stability of slowly varying time-dependent viscous flows. P. Hall 357

The settling of a porous body through a density interface. S. A. Thornham and S. D. R. Wilson 369

Double-diffusive convection caused by coupled molecular diffusion. Trevor J. McDougall 379

Isothermal models of gas-turbine combustors. A. S. Green and J. H. Whitelaw 399

Azimuthal rotation in the axisymmetric meridional flow due to an electric-current source. V. Bojarevičs and E. V. Shcherbinin 413

A new type of boundary layer in a rapidly rotating gas. Takuya Matsuda and Keizo Nakagawa 431

High-strain-rate free-surface boundary-layer flows J. R. Bertschy, R. W. Chin and F. H. Abernathy 443

General stability conditions for zonal flows in a one-layer model on the β-plane or the sphere. P. Ripa 463

Interfacial stability of binary mixtures evaporating at reduced pressure. Arijit Bose and Harvey J. Palmer 491

The breaking and non-breaking wave resistance of a two-dimensional hydrofoil. James H. Duncan 507

Oscillatory Hele-Shaw convection. H. Frick and U. Müller 521

The deformation of a viscous particle surrounded by an elastic shell in a general time-dependent linear flow field. P. O. Brunn 533

Steady and oscillatory thermocapillary convection in liquid columns with free cylindrical surface. F. Preisser, D. Schwabe and A. Scharmann 545

Index to Volume 126 568